

SYNONYMY AND DISTRIBUTION RECORDS IN THE GENUS
EUCERCERIS (HYMENOPTERA: PHILANTHIDAE)¹

George R. Ferguson

Abstract.—*Eucerceris ferruginosa* Scullen is removed from synonymy with *E. nevadensis* (Dalla Torre). *E. baja* Scullen is the male and a junior synonym of *E. ferruginosa*. *E. nevadensis mojavensis* Scullen (New Status) is the correct name for the taxon north of Mexico previously referred by authors to *E. nevadensis ferruginosa* nec Scullen. The following synonymy is presented: *E. lacunosa* Scullen (= *E. lacunosa sabinasae* Scullen, New synonym); *E. morula* Scullen (= *E. morula albarenae* Scullen, New synonym); *E. superba* Cresson (= *E. bicolor* Cresson, = *Cerceris dichroa* Dalla Torre, New synonyms); *E. canaliculata* (Say) (= *E. zimapanensis* Scullen, New synonym). The male of *E. lapazensis* Scullen is characterized, and the distribution of several species is discussed.

Eucerceris is a North American genus distributed as far south as Panama. A transverse depression on each of the middle gastral terga separates it from the closely related and worldwide genus *Cerceris*. Scullen (1968) revised the genus *Eucerceris*, but his key to species and subspecies relied heavily on variable color characters which makes identification of many specimens difficult. Bohart and Grissell (1975) revised the California species, but this helpful work covered only ten of the more than thirty species known. I have undertaken a review of the genus *Eucerceris* with the objective of clarifying synonymy and developing a key to the species based on morphological characters. This paper is the first in a planned series and presents some of the results of these studies.

Eucerceris ferruginosa Scullen (New Status)

Eucerceris ferruginosa Scullen, 1939:45. [Female holotype, Angeles Bay, Baja California Norte, Mexico; Calif. Acad. Sci., San Francisco]; Scullen 1968:30, in part.

Eucerceris baja Scullen, 1948:170. [Male holotype, 20 mi. n. Mesquital, Baja California Norte, Mexico; Calif. Acad. Sci., San Francisco]; Scullen 1968:19; Bohart and Menke 1976:591. *New Synonymy*.

I have studied the three specimens comprising the type series of *Eucerceris ferruginosa* Scullen. The holotype [CAS] and paratype [OSU] from

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Baja California are not the same species as the paratype labelled Mojave Desert n. Palmdale, California, June 22, 1931 (F. E. Lutz) [AMNH]. The latter is the female of *Eucerceris mojavensis* Scullen which is recognized below as a subspecies of *Eucerceris nevadensis* (Dalla Torre). Bohart and Grissell (1975) synonymized both *E. ferruginosa* Scullen and *E. mojavensis* Scullen with *Eucerceris nevadensis* (Dalla Torre) (= *Eucerceris elegans* Cresson)² based on California and Nevada specimens, but the name *ferruginosa* must be applied to the Baja California species as represented by the holotype.

Females of *E. ferruginosa* are essentially all red in body color, but they are morphologically distinct from *E. nevadensis* which also has all red females in a large part of its range. In *E. ferruginosa* the midsection of the clypeus is slightly convex, on about the same plane as the lateral clypeal lobes when viewed in profile, and its apical margin is shallowly biemarginate between the lateral teeth, forming a short, broad, triangular tooth overlying the bases of the pre-apical setae. In *E. nevadensis* the midsection of the clypeus is flat and depressed below the plane connecting the outer margins of the lateral clypeal lobes, and the bases of the pre-apical setae are visible, not being covered by a median tooth.

The holotype and thirteen paratypes of *Eucerceris baja* Scullen have the same collection labels as six females of *E. ferruginosa* Scullen, and five paratypes of *E. baja* have the same collection data as the holotype of *E. ferruginosa*. In addition Scullen (1968) recorded a female of *E. ferruginosa* collected with 12 males of *E. baja* at 28 mi. s.e. El Arco, Baja California [UCB], and I have seen a male and female collected at 33 mi. s. La Laguna, June 30, 1968 [AZS]. These collection records leave no doubt that *E. baja* is the male of *E. ferruginosa*.

This species has been collected at several localities from the vicinity of San Felipe in Baja California Norte to San Carlos in Baja California Sur. One female, possibly adventive, was collected 39 mi. n. Puerto Penasco, Sonora, Mexico [AZS]. Collection dates are from April 1 to September 27 with all intervening months represented except August. This suggests two generations per year. I have seen 24 males, including the holotype of *E. baja*, and 14 females, including the holotype of *E. ferruginosa* [AZS, CAS, CSU, OSU, UCB, UID].

² When Dalla Torre (1890) transferred the species of *Eucerceris* to *Cerceris*, *Eucerceris elegans* Cresson became a homonym of the earlier *Cerceris elegans* Eversmann. He renamed Cresson's species *Cerceris nevadensis* Dalla Torre. Many North American hymenopterists have not recognized the secondary homonymy created by Dalla Torre, and Krombein (1979, 1980) continued to prefer the use of *Eucerceris elegans* Cresson. Bohart and Grissell (1975, p. 27) state that "Although the international rules of nomenclature on this point were changed in 1961, they were not retroactive and the names of . . . Dalla Torre must be used," and I prefer to follow this strict interpretation of the rules as the best long-range policy.

Eucerceris nevadensis nevadensis (Dalla Torre)

Eucerceris elegans Cresson, 1879:xxiii. [Male holotype, Nevada; Acad. Nat. Sci., Philadelphia]; Mickel 1916:413, males only; Scullen 1939:32, males only; Scullen 1965:132.

Cerceris nevadensis Dalla Torre, 1890:200, new name for *Eucerceris elegans* Cresson, nec *Cerceris elegans* Eversmann.

Eucerceris elegans elegans, Scullen 1968:27; Krombein 1979:1739.

Eucerceris elegans monoensis Scullen, 1968:28. [Female holotype, Grant Lake, Mono County, California; Calif. Acad. Sci., San Francisco]; Krombein 1979:1739.

Eucerceris nevadensis, Bohart and Grissell 1975:31, in part.

Eucerceris nevadensis nevadensis, Bohart and Menke 1976:591.

Eucerceris nevadensis monoensis, Bohart and Menke 1976:591.

Bohart and Grissell (1975) synonymized *E. elegans monoensis* with the nominate form and its continued recognition by Bohart and Menke (1976) and Krombein (1979) is apparently due to time lag between copy preparation and final printing of the latter two publications.

E. nevadensis nevadensis occurs in Mono and Inyo Counties, California, and Churchill, Esmeralda, Lyon, Mineral and Washoe Counties, Nevada. It is apparently a Transition Zone form of the eastern slopes of the Sierra Nevada Mountains. I have seen 59 males and 14 females. Collection dates are June 20 to September 27 [AMNH, AZS, CAS, MCZ, OSU, UCB].

Eucerceris nevadensis mojavensis Scullen (New Status)

Eucerceris ferruginosa, Scullen 1939:45, in part, nec holotype; Scullen 1968:30, in part, nec Scullen 1939; Bohart and Grissell 1975:31, nec Scullen 1939.

Eucerceris mojavensis Scullen, 1968:44. [Male Holotype, 7 mi. e. Mojave, California; Univ. of California, Davis]; Bohart and Grissell 1975:31.

Eucerceris nevadensis, Bohart and Grissell 1975:31, in part.

Eucerceris nevadensis ferruginosa, Bohart and Menke 1976:592, nec Scullen 1939.

Eucerceris nevadensis mohavensis (sic), Bohart and Menke 1976:592.

Eucerceris elegans ferruginosa, Krombein 1979:1739, nec Scullen 1939.

The confusion of the females of *E. nevadensis mojavensis* with the females of *Eucerceris ferruginosa* Scullen has been discussed under the latter species. Bohart and Grissell (1975) did not formally recognize subspecies, but they did concede that "a reasonable case could be made for *E. nevadensis ferruginosa* with *mojavensis* as a synonym." Since the name *ferruginosa* Scullen must be used for quite a different species, the name *mojavensis* Scullen is available for this subspecies.

E. nevadensis mojavensis occurs in the Upper and Lower Sonoran Zones of the southwestern states including Inyo, Kern, Los Angeles, San Bernardino and San Diego Counties, California; Mohave and Yuma Counties, Arizona; and Clark, Humboldt, Lincoln and Lyon Counties, Nevada. I have also seen a specimen labelled Cholla Bay, Sonora, Mexico [WSU]. Dates of capture are April 26 to June 28, and August 13 to October 20, indicating the probability of two generations per year. Intergrades occur in Inyo County, California, and Lyon County, Nevada. I have seen 42 males, including the holotype, and 17 females [AZS, AMNH, CAS, OSU, UCB, UCR, USU, WSU].

The following key will separate the two subspecies of *Eucerceris nevadensis* (Dalla Torre):

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 1. Males | 2 |
| – Females | 3 |
| 2. Mesosternum largely or entirely black; anteromedial scutal marks usually small and not fused with the anterolateral marks, sometimes absent | <i>nevadensis nevadensis</i> (Dalla Torre) |
| – Mesosternum largely or entirely white or light yellow; scutal marks always present, usually large and fused with anterolateral marks | <i>nevadensis mojavensis</i> Scullen |
| 3. Ground color of thorax and gaster black, or, at least with large black areas; light colored tergal bands always present | <i>nevadensis nevadensis</i> (Dalla Torre) |
| – Ground color of thorax and gaster red; tergal bands usually absent, but if present, background color red | <i>nevadensis mojavensis</i> Scullen |

Eucerceris lacunosa Scullen

Eucerceris lacunosa Scullen, 1939:19. [Male holotype, Bill Williams Fork, Arizona; Univ. of Kansas, Lawrence].

Eucerceris arizonensis Scullen, 1939:20. [Female holotype, Oslar, Huachuca Mtns., Arizona; Univ. of Kansas, Lawrence].

Eucerceris lacunosa lacunosa, Scullen 1968:34; Bohart and Menke 1976:591; Krombein 1979:1739.

Eucerceris lacunosa sabinasae Scullen, 1968:36. [Male holotype, 23 mi. n. Sabinas, Coahuila, Mexico; Univ. of California, Davis]; Bohart and Menke 1976:591; Krombein 1979:1739. *New Synonymy*.

The slightly darker specimens on which Scullen (1968) based the subspecies *sabinasae* occur sporadically over most of the range of the species. The two color forms are identical morphologically, and therefore no basis exists for maintaining the name *sabinasae*.

I have seen 41 males, including 2 paratypes of *E. sabinasae*, and 12 females. All specimens were within the distribution range given by Scullen (1968). Collection dates ranged from April 23 to September 27 with about 80% of captures in July and August [AMNH, COR, OSU, UAZ, USU].

Eucerceris morula Scullen

Eucerceris morula morula Scullen, 1968:49. [Female holotype, 17 mi. n.e. San Luis Potosi, San Luis Potosi, Mexico; U.S. Natl. Mus., Washington, D.C.]; Bohart and Menke 1976:591; Krombein 1979:1739.

Eucerceris morula albarenae Scullen, 1968:46. [Female holotype, 31 mi. n.e. Las Cruces, Otero County, New Mexico; U.S. Natl. Mus., Washington, D.C.]; Bohart and Menke 1976:591; Krombein 1979:1739. *New Synonymy*.

The two subspecies of *E. morula* were separated by Scullen (1968) on rather tenuous and minor color differences. The tendency toward development of a red or ferruginous color as partial replacement for a black background is commonly encountered in the genus *Eucerceris*. In *E. morula* the tendency is much less pronounced than in such well known species as *E. rubripes* Cresson. Of the large number of specimens studied, no satisfactory basis was found for recognizing subspecies.

I have seen 421 male paratypes and 117 female paratypes of *E. morula morula* as well as 101 male paratypes and 14 female paratypes of *E. morula albarenae* [OSU]. In addition to the distribution given by Scullen (1968), I have seen a specimen from Lincoln County, New Mexico [UID]. Collection dates are from June 15 to October 3 with a strong peak in September.

Eucerceris pimarum Rohwer

Eucerceris pimarum Rohwer, 1908:326. [Female holotype, Phoenix, Arizona; U.S. Natl. Mus., Washington, D.C.]; Bohart and Grissell 1975:32; Bohart and Menke 1976:592; Krombein 1979:1740.

Eucerceris apicata Banks, 1915:404. [Male holotype, Yuma, Arizona; Mus. Comp. Zool., Cambridge, Massachusetts]; tentative synonymy by Bohart and Grissell 1975; synonymy by Bohart in Bohart and Menke 1976.

Eucerceris elegans, Scullen 1939:32, nec Cresson 1879, females only.

Eucerceris pimarium (sic), Scullen 1939:32, as synonym of *Eucerceris elegans* nec Cresson 1879, females only.

Eucerceris pimarum, Scullen 1965:135, females in part; Scullen 1968:52, females in part.

Eucerceris apicata, Scullen 1965:132, males in part; Scullen 1968:11, males in part.

Bohart and Grissell (1975) discussed the confusion surrounding this species and pointed out that the *E. apicata* and *E. pimarum* of Scullen

(1965, 1968) were in fact composed of three species, i.e. *Eucerceris bitruncata* Scullen (= *Eucerceris triciliata* Scullen), *Eucerceris conata* Scullen (= *Eucerceris hespera* Scullen), and *Eucerceris pimarum* Rohwer (= *Eucerceris apicata* Banks).

Distribution of *E. pimarum* is limited to the Lower Sonoran deserts of the southwest, and it is allopatric with both *E. bitruncata* and *E. conata*. Bohart and Grissell (1975) reported *E. pimarum* from Imperial and Riverside Counties, California, and Maricopa, Mohave, Pima and Yuma Counties, Arizona. In addition I have seen specimens from Clark County, Nevada, [USU], and 15 mi. s. Guaymas, Sonora, Mexico [OSU]. The latter is a male without red markings as are some males from the Tucson area in Arizona.

The females of *E. pimarum* were at one time thought to be females of *E. elegans* Cresson, and I have seen 15 males and 11 females standing under the latter name [UAZ]. I have seen a total of 50 males, including the holotype of *E. apicata* Banks, and 40 females of this species. Dates of collection are from May 29 (Clark County, Nevada) to January 10 (Sonora, Mexico) with the bulk of collections in September–October [AZS, CAS, COR, MCZ, OSU, UAZ, UCR, UID, USU].

Eucerceris bitruncata Scullen

Eucerceris bitruncata Scullen, 1939:35. [Female holotype, San Antonio, Texas; U.S. Natl. Mus., Washington, D.C.]; Bohart and Grissell 1975:32; Bohart and Menke 1976:591; Krombein 1979:1738.

Eucerceris triciliata Scullen, 1948:172. [Male holotype, 20 mi. n. El Paso, Texas; Calif. Acad. Sci., San Francisco].

Eucerceris pimarum, Scullen 1965:135, nec Rohwer, females in part, males; Scullen 1968:52, nec Rohwer, females in part, males.

Scullen (1965, 1968) interpreted his *E. pimarum* to include both sexes of *E. bitruncata* as well as females of *E. pimarum* Rohwer, and his (1968) distribution map must be interpreted accordingly. With the exception of the Utah records, which represent an undescribed species to be described separately, all males determined by him as *E. pimarum* belong to *E. bitruncata*.

Peripheral distribution records from the United States are from Cochise and Santa Cruz Counties, Arizona; north through Bernalillo and Guadalupe Counties, New Mexico; Lubbock County, Texas; Cimarron County, Oklahoma; to Barber County, Kansas. It is known from most of the border counties from Hidalgo County, New Mexico, to Cameron County, Texas, and north to Anderson County, Texas. In Mexico it has been collected in the states of Chihuahua, Coahuila, Durango and Zacatecas.

Dates of capture are from May 30 to September 24 in Arizona and New Mexico with a peak in August; from April 14 to October 2 in Texas, Oklahoma and Kansas with a peak in June–July; and from June 24 to October 25 in Mexico with a peak in August. One specimen, a male, from Coahuila,

Mexico, and the single male from Zacatecas, Mexico, are black and white rather than black, yellow and red. I have seen a total of 548 males and 119 females from all parts of the range of the species [AMNH, AZS, CAS, COR, CSU, MCZ, OSU, UAZ, UCB, UCR, UID, USU].

Eucerceris conata Scullen

Eucerceris elegans, Mickel 1916:413, nec Cresson 1879, females only.

Eucerceris conata Scullen, 1939:34. [Female holotype, Halsey, Nebraska; Univ. of Nebraska, Lincoln]; Bohart and Grissell 1975:32; Bohart and Menke 1976:591; Krombein 1979:1738.

Eucerceris hespera Scullen, 1948:171. [Male holotype, 25 mi. e. El Paso, Texas; Calif. Acad. Sci., San Francisco].

Eucerceris apicata, Scullen 1965:132, nec Banks 1915, males in part, females; Scullen 1968:11, nec Banks 1915, males in part, females.

This species has had a tangled history. Mickel (1916) regarded it to be the female of *Eucerceris elegans* Cresson known at that time only from males. Scullen (1939) described *E. conata* for those females referred to *elegans* by Mickel and assigned females to *elegans* that we now know to be *E. pimarum* Rohwer. Scullen (1948) described *E. hespera* suggesting that it might be the male of either *E. bitruncata* or *E. conata*. Scullen (1965) described the true female of *E. elegans* Cresson but incorrectly synonymized *E. conata* and *E. hespera* with *E. apicata* Banks. This interpretation, followed in Scullen (1968), brought together both sexes of *E. conata* and the males of *E. pimarum* under the name *E. apicata* until clarified by Bohart and Grissell (1975).

The distribution data for *E. apicata* given by Scullen (1968) must be revised since *E. pimarum* males were included. The specimens recorded from Pima County, Arizona, are all referable to *E. pimarum* Rohwer, and the specimens recorded from Mono County, California, are over-cyanided males of *E. nevadensis nevadensis* (Dalla Torre) [CAS]. I have not seen the specimen from Coconino County, Arizona.

E. conata occurs in the Wilcox area of northern Cochise County, Arizona, but I have not found it in large quantities of material collected in the Portal area. It has also been collected in Navajo County, Arizona; Grand and San Juan Counties, Utah; Pueblo County, Colorado; Goshen County, Wyoming; Morrill and Thomas Counties, Nebraska; Fall River County, South Dakota; Bernalillo, Chaves, Dona Ana, Lincoln and Socorro Counties, New Mexico; and Culberson and El Paso Counties, Texas. Dates of collection are May 25 to October 7. I have seen two specimens from Samalayuca, in northern Chihuahua, Mexico, collected on June 24 and October 6. I have seen 75 males and 107 females [AMNH, AZS, CAS, CSU, MCZ, OSU, UAZ, UID, USU].

Eucerceris superba Cresson

- Eucerceris superba* Cresson, 1865:108. [Male lectotype, Rocky Mtns., Colorado Territory; Acad. Nat. Sci., Philadelphia].
- Eucerceris fulviceps* Cresson, 1879:xxiii. [Female holotype, New Mexico; Acad. Nat. Sci., Philadelphia].
- Eucerceris bicolor* Cresson, 1881:xxxviii. [Female holotype, Montana; Acad. Nat. Sci., Philadelphia]. *New Synonymy*.
- Cerceris dichroa* Dalla Torre, 1890:199. New name for *Eucerceris bicolor* Cresson, nec *Cerceris bicolor* F. Smith. *New Synonymy*.
- Eucerceris fulviceps* var. *rhodops* Viereck and Cockerell, 1904:84. [Female holotype, Pecos, New Mexico; Acad. Nat. Sci., Philadelphia].
- Eucerceris superba* var. *bicolor*, Scullen 1939:37.
- Eucerceris superba bicolor*, Scullen 1968:65; Krombein 1979:1740.
- Eucerceris superba superba*, Scullen 1968:66; Bohart and Menke 1976:592; Krombein 1979:1740.
- Eucerceris superba dichroa*, Bohart and Menke 1976:592.

Eucerceris bicolor Cresson is a color variant of *Eucerceris superba* Cresson that is known only in females. *E. bicolor* has the posterior terga black, whereas in *E. superba* all terga have broad yellow bands. Scullen (1939) quoted at length from personal correspondence from Prof. O. A. Stevens who had collected the two forms together in North Dakota, and he reduced *bicolor* to the status of a variety. Later (1968) he treated it as a subspecies.

The frequency of the dark form decreases from north to south and from east to west as follows (total females with number of dark form females in parentheses): Alberta 48 (46); Montana 9 (9); North Dakota 17 (16); South Dakota 7 (7); Wyoming 13 (9); Colorado 4 (2, 1 intermediate); Nebraska 4 (4); Kansas 1 (1); Idaho 10 (0); Utah 28 (0); New Mexico 5 (1, 1 intermediate); Arizona 2 (0); Washington 2 (0).

Of interest is the occurrence of this species on Orcas Island (Doebay), San Juan County, Washington. Two males and two females were collected by A. R. Gittins, VIII-14-1964 [UID, OSU]. The females are of the light form. The University of Washington collection is now a part of the collections of the Systematic Entomology Laboratory, Oregon State University, and it is rich in specimens collected on the San Juan Islands and in the Puget Sound area during the early decades of this century. *E. superba* is not represented in that material. The nearest recorded capture is Lewiston, Idaho, (Scullen 1968) near the southeastern border of Washington.

I have seen a total of 127 males and 68 females. Dates of collection are July 2 to September 7 with a pronounced peak in August [COR, OSU, UCB, UCR, UID, USU, WSU].

Eucerceris canaliculata (Say)

- Philanthus canaliculatus* Say, 1823:80. [Male holotype, Arkansas, destroyed; male neotype, Kansas; Acad. Nat. Sci., Philadelphia].
- Cerceris bidentata* Say, 1823:80. [Female holotype, Arkansas, destroyed].
- Eucerceris canaliculata*, Cresson 1865:112; Scullen 1939:47; Bohart and Menke 1976:591; Krombein 1979:1738.
- Eucerceris canaliculata* var. *atronitida* Scullen, 1939:50. [Male holotype, Beaver Canyon, Utah; U.S. Natl. Mus., Washington, D.C.].
- Eucerceris biconica* Scullen, 1948:178. [Female holotype, 15 mi. n. El Paso, Texas; Calif. Acad. Sci., San Francisco].
- Eucerceris canaliculata canaliculata*, Scullen 1968:23.
- Eucerceris canaliculata atronitida*, Scullen 1968:25.
- Eucerceris zimapanensis* Scullen, 1968:72. [Male holotype, 9 mi. n. Ojo Caliente, Zacatecas, Mexico; Calif. Acad. Sci., San Francisco]; Bohart and Menke 1976:592. *New Synonymy*.

Most specimens of *Eucerceris canaliculata* (Say) have yellow markings on a red background, but specimens with a black scutum and black markings on other parts of the body have been collected over much of its range. The dark form from Utah was described by Scullen (1939) under the name *atronitida* and was synonymized by Bohart and Grissell (1975). Scullen (1968) described a similar form as *Eucerceris zimapanensis* from the states of Zacatecas and Hidalgo, Mexico, that had slightly more extensive black markings. The distinction was arbitrary since some specimens from Zimapan, Hidalgo, were determined as *atronitida*. Similar black-marked specimens are common in the states of Durango and San Luis Potosi, Mexico.

With the exception of the Utah population, the frequency of the darker forms increases from north to south. From Dr. Scullen's records I have tabulated some 2,295 specimens determined by him over the years as follows (total specimens shown with number of dark specimens in parentheses): Montana, Wyoming, South Dakota, Nebraska 14 (0); Kansas, Oklahoma, Arkansas 77 (0); Colorado 51 (2); Utah 29 (12); Texas 786 (11); New Mexico 429 (2); Arizona 532 (7); California, Nevada 53 (0); Chihuahua, Coahuila, Nueva Leon 156 (0); Durango 22 (16); Zacatecas 5 (2); San Luis Potosi 125 (75); Queretaro 2 (2); Hidalgo 12 (10); Guatemala 1 (1).

A specimen labelled Puerto Barrios, Guatemala, VIII-16-1965 (Alberto Ortiz) [OSU] extends the known range southward.

A color form occurs in the southwestern deserts in which the terga are entirely yellow, the usual transverse dark stripe of the tergal depressions being absent. I have seen 9 males and 3 females of this form from Imperial, Riverside and San Bernardino Counties, California; Lincoln County, Nevada; and Yuma County, Arizona.

I have seen a total of 561 males, including a paratype of *E. zimapanensis*, and 184 females. Collection dates are from April to October with a broad peak in June, July and August.

Eucerceris lapazensis Scullen

Eucerceris lapazensis Scullen, 1968:37. [Female holotype, La Paz, Baja California Sur, Mexico; Calif. Acad. Sci., San Francisco]; Bohart and Menke 1976:591.

This species is closely related to *Eucerceris canaliculata* (Say) and *Eucerceris sonora* Scullen, but the females of *E. lapazensis* are easily separated by the absence of the prominent projections on the lateral lobes of the clypeus characteristic of the other two species. Males of *E. lapazensis* have not heretofore been recognized.

I have examined a series of 8 males and 2 females collected 2 mi. s. La Paz, Baja California Sur, VIII-5/7-1966 that had been previously identified as *E. canaliculata* and *E. lapazensis* respectively [UCB], and a previously unidentified series of 40 males and 6 females collected at La Paz, Baja California Sur, IX-5/7-1967 and IX-17/22-1967 [UCB]. The females are *E. lapazensis* and the males are undoubtedly the same species.

The males of *E. lapazensis* are very close to *E. sonora* and *E. canaliculata* in structure and coloration. Most males of *E. canaliculata* can be separated by a rounded, somewhat ridgelike, swelling near the dorsolateral margin of the lateral clypeal lobe that is absent in the other two species. The subantennal sclerite and immediately adjacent areas of the clypeus and lower face are rather sparsely punctate in most specimens of *E. canaliculata* but more densely punctate in the other two species. In *E. lapazensis* the vertex averages somewhat wider with respect to the ocellar triangle than in the other two species. The least vertex width averaged 2.9, 2.8 and 2.7 times the ocellar triangle width in *E. lapazensis*, *E. canaliculata*, and *E. sonora* respectively with considerable overlap. I have found no single morphological character which is reliable in all cases for separating the males of these three species. As presently known, the three species are allopatric, and geographic distribution will separate them.

I have seen most of the specimens from Baja California that were determined as *E. canaliculata* by Scullen according to his records. These include the two localities shown in his (1968) distribution map for *E. canaliculata*, and I believe all of his determinations from Baja California are properly referable to *E. lapazensis*.

In addition to the La Paz area, *E. lapazensis* has been collected at Todos Santos, 20 mi. n. Comondu, 20 mi. s. El Arco, and El Centenario in Baja California Sur; and 14 km s. Rosarito and 20 mi. n. Mezquital in Baja

California Norte. I have seen 57 males and 9 females with collection dates from August 2 to October 3. The bulk of the collection dates are in September [CAS, OSU, UCB, UID].

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The Systematic Entomology Laboratory, Oregon State University, contains the extensive collection of cercerine wasps built up by Dr. H. A. Scullen over a period in excess of forty years together with his unpublished notes and records. I have relied heavily on these resources.

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Professor of Entomology, Systematic Entomology Laboratory, Department of Entomology, Oregon State University, Corvallis, Oregon 97331.

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